

**REMARKS/ARGUMENTS**

Claims 1-2, 5-16, and 18-19 are pending in this application.

New Claims 18 and 19 have been added to alternatively define the invention.

Claims 1-2 and 5-16 had been rejected under 35 U.S.C. §101. This rejection is respectfully traversed for the following reasons.

According to the Examiner, the claimed invention does not produce a useful, concrete, and tangible result because “the conveyance of light is not a physical transformation” (page 3 of the pending final Office Action). Applicants respectfully disagree.

The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.”<sup>1</sup> The purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research.<sup>2</sup>

For an invention to be useful it must satisfy the utility requirement of 35 U.S.C. §101: the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible.<sup>3</sup>

Another consideration is whether the invention produces a concrete result. Usually, this question arises when a result cannot be assured. In other words, the

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<sup>1</sup> State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d 1368, 1373-74, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998). See also MPEP 2106.

<sup>2</sup> Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993). See also MPEP 2106.

<sup>3</sup> MPEP 2106.

invention must have a result that can be substantially repeatable or the invention must substantially produce the same result again.<sup>4</sup>

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. The tangible requirement requires that the claim must recite more than a 35 U.S.C. §101 judicial exception (abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature), in that the claim must set forth a practical application of that judicial exception to produce a real-world result.<sup>5</sup>

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be.<sup>6</sup>

For purposes of an eligibility analysis, a physical transformation “is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application.”<sup>7</sup>

Examiner does not argue that the results produced by the claimed invention are either not useful or not concrete.

Claims recite the resulting conveyance of light, which is a real-world result; the conveyance of light in this invention is more than an idea or concept, a natural phenomenon, a law of nature, or simply a starting point for future investigation or research. The tangible requirement is thus satisfied.

Therefore, Claims produce useful, concrete, and tangible results, as required by 35 USC §101. Applicants believe that Claims 1-2 and 5-16 are in compliance with 35 U.S.C. §101 and should be allowed.

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<sup>4</sup> In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000). See also MPEP 2106.

<sup>5</sup> MPEP 2106.

<sup>6</sup> MPEP 2106.

<sup>7</sup> AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 1358-59, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999). See also MPEP 2106.

Claim 2 had been rejected under 35 U.S.C. §102(b) over Lybarger et al. (*Cytometry* (1998) Volume 31, pages 147-152). This rejection is respectfully traversed for the following reasons.

It is well established that a claim is anticipated under 35 U.S.C. §102, only if each and every element of the claim is found in a single prior art reference.<sup>8</sup> Moreover, to anticipate a claim under 35 U.S.C. §102, a single source must contain each and every element of the claim “arranged as in the claim.”<sup>9, 10</sup> Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference.<sup>11</sup> If each and every element of a claim is not found in a single reference, there can be no anticipation.

Claim 2 comprises the wavelength separation points of the portions of the emission spectrum being defined by intersection points of the individual spectra of each fluorescent dye in the sample.

Examiner claims that Lybarger describes this element on page 149. Applicants respectfully disagree.

Contrary to the present invention, Lybarger does not describe separation points defined by intersection of the spectra either on page 149 or anywhere else. Page 149 shows some intersecting spectra, but the intersection points are not marked or used in any way on page 149 or anywhere else in Lybarger.

As explained hereinabove, the wavelength separation points of the portions of the emission spectrum being defined by intersection points of the individual spectra of each

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<sup>8</sup> Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

<sup>9</sup> Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

<sup>10</sup> Lewmar Marine Inc. v. Barent, Inc., 827 F.2d 744, 747, 3 U.S.P.Q. 2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).

<sup>11</sup> Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

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fluorescent dye in the sample is not taught or suggested in Lybarger. Therefore, Claim 2 is patentable over Lybarger under 35 U.S.C. §102(b) and should be allowed.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited in this case. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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